Celanese
The chemistry inside innovation™

CELANEX® 3314

30% glass-fiber, V-0, non-exuding
Celanex 3314 is a non-exuding (UL approved V-0 at 1/64 inch), 30% fiberglass reinforced polybutylene terephthalate which has an excellent balance of mechanical properties and processability. It is well suited for electrical connector applications.

Rheological properties

Melt volume-flow rate	13	cm^3/10min	ISO 1133
Melt mass-flow rate	17	g/10min	ISO 1133
Temperature	250	°C	
Load	2.16	kg	
Melt mass-flow rate, Temperature	250	°C	
Melt mass-flow rate, Load	2.16	kg	
Viscosity number	85	cm^3/g	ISO 307, 1157, 1628
Moulding shrinkage range, parallel	0.3 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	10000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	136	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.6	%	ISO 527-1/-2
Flexural Modulus	10000	MPa	ISO 178
Flexural Strength	210	MPa	ISO 178
Charpy impact strength, 23°C	52	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	14	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	7.9	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	7.3	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	8	kJ/m^2	ISO 180/1A
Izod notched impact strength, -30°C	8	kJ/m^2	ISO 180/1A
Shore D hardness, 15s	85		ISO 48-4 / ISO 868

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	210	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	220	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	225	°C	ISO 306
Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	75	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	V-0	class	UL 94
Thickness tested	0.39	mm	UL 94
Hot Wire Ignition, 1.5mm	24.2	s	UL 746A

Celanese
The chemistry inside innovation™

CELANEX® 3314

Electrical properties

Relative permittivity, 100Hz	2.8		IEC 62631-2-1
Relative permittivity, 1MHz	3.4		IEC 62631-2-1
Dissipation factor, 1MHz	140	E-4	IEC 62631-2-1
Volume resistivity	>1E14	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E17	Ohm	IEC 62631-3-2
Electric strength	33	kV/mm	IEC 60243-1
Comparative tracking index	PLC 3	PLC	UL 746A

Other properties

Humidity absorption, 2mm	0.16	%	Sim. to ISO 62
Water absorption, 2mm	0.5	%	Sim. to ISO 62
Density	1670	kg/m³	ISO 1183

Injection

Drying Temperature	120 - 130	°C
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	0.02	%
Max. mould temperature	65 - 93	°C
Injection speed	medium-fast	

Characteristics

Additives	Release agent, Flame retardant

Additional information

Injection molding

Rear Temperature 450-470(230-240) deg F (deg C)
Center Temperature 460-480(235-250) deg F (deg C)
Front Temperature 470-490(240-255) deg F (deg C)
Nozzle Temperature 480-490(250-255) deg F (deg C)
Melt Temperature 460-490(235-255) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades.

Celanese
The chemistry inside innovation™

CELANEX® 3314

Processing Texts

Pre-drying	To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.
Longer pre-drying times/storage	For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.
Injection molding	Rear Temperature 450-470(230-240) deg F (deg C) Center Temperature 460-480(235-250) deg F (deg C) Front Temperature 470-490(240-255) deg F (deg C) Nozzle Temperature 480-490(250-255) deg F (deg C) Melt Temperature 460-490(235-255) deg F (deg C) Mold Temperature 150-200(65-93) deg F (deg C) Back Pressure 0-50 psi Screw Speed Medium Injection Speed Fast Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades.
Injection molding Preprocessing	To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 250°F (121°C) for 4 hours..